Building Relationships in Equine-Assisted Activities: Overlaps and Differences in Horse and Human Friendship Strategies

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Introduction and background

- Common EAP Methods and Models
  - Activity-based (SPUR, EAGALA, Natural Lifemanship, etc)
  - Horses as metaphors/objects (Kieson & Abramson, 2016)
  - Multi-session or Single-session
- Beneficial to Humans (Bachi, Terkel, & Teichman, 2012; Frederick, Ivey Hatz, & Lanning, 2015; Lac, 2016; Lee, 2017; Saggers & Strachan, 2016; Whittlesey-Jerome, 2014; Wilson, Buultjens, Monfries, & Karimi, 2017)
Introduction and background

Behavioral Assessments of Horse-Human Interactions: Equines form lasting impressions based on learned associations

- Horses differentiate between people \cite{Lampe2012, Proops2012}
- Previous interactions with individuals influence behavior during next interaction \cite{Fureix2009, Sankey2010}
- Equine behavior over time with individual can indicate preference for interactions/individual
- Controlling behavioral interactions gives us insight into each horses’ preference for interactions/individuals

Most research based on stress and not positive welfare

- International Society for Equitation Science
Study: Equine affiliative behaviors

- Observations of 200 horses – Two herds of Quarter Horse mares – one with 85 mares and one with 115 mares. Ages 6 - 20
- Housed in large pastures of between 20 to 30 acres (rotated).
  - Brought into smaller areas during winter evenings to remain under light
  - Brought into smaller areas daily for selected palpation
  - Limited resources – space, food, water
Findings: Equine affiliative behaviors

- Indicators of social bonds
  - Proximity
  - Joint movement
  - **Mutual** touch and engagement
  - Synchronized movement
- Nothing in social bonds is one-sided. One-sided interactions, especially those that increase stress behaviors, do not occur between close conspecifics are not signs of social bonds. One-sided interactions are communication, but not indicators of bonding.
- No support for dominance hierarchy, only behavioral expressions for space/proximity sharing.
Study design

- No Food/Treats
  - Treats are known reward
  - Novel food induces arousal
  - Looking for non-arousal bonding behaviors (avoiding food and play)

- Physical Interactions
  - Pet/Stroke
  - Scratch (Feh & de Mazierès, 1993)
    - Coping (Christensen, Ladewig, Søndergaard, & Malmkvist, 2002; Kimura, 1998; VanDierendonck & Spruijt, 2012)
  - Pat (de Waal, 1989; Hepach & Westermann, 2013)
  - Stand/Proximity (Kimura, 1998)

- Participants
  - No previous history with herd
  - Various backgrounds with horses
  - Alone in pasture with horses
Measurables

• Quantitative
  • Duration of interaction
  • Who initiated the interaction
  • Who ended the interaction
  • Type of interaction
  • Number of interactions

• Qualitative
  • Behavioral indicators of arousal – increased movement, muscle tension, head height, ear position, irritation/escape behaviors (Fazio et al., 2013; U König von Borstel, Euent, Graf, König, & Gauly, 2011; Uta König von Borstel, Pasing, & Gauly, 2011; Yarnell, Hall, & Billett, 2013)
  • Other observed behaviors
  • Interview with participant
## Study design

<table>
<thead>
<tr>
<th>Horse</th>
<th>Gender</th>
<th>Color</th>
<th>Person 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tucker</td>
<td>Gelding</td>
<td>Black, furry, white dot on face</td>
<td>Pat</td>
</tr>
<tr>
<td>Stout</td>
<td>Gelding</td>
<td>Sorrel (Brown), white blaze on face</td>
<td>Scratch</td>
</tr>
<tr>
<td>Short</td>
<td>Gelding</td>
<td>White</td>
<td>Stroke</td>
</tr>
<tr>
<td>Ollie</td>
<td>Gelding</td>
<td>Brown (Clydesdale), black and white</td>
<td>Stand</td>
</tr>
<tr>
<td>Hannah</td>
<td>Mare</td>
<td>Brown, three white socks</td>
<td>Stroke</td>
</tr>
<tr>
<td>Gracie</td>
<td>Mare</td>
<td>Tan, furry, black in mane</td>
<td>Stand</td>
</tr>
<tr>
<td>Peppa</td>
<td>Mare</td>
<td>Brown, brown-black markings, black mane</td>
<td>Pat</td>
</tr>
<tr>
<td>Belle</td>
<td>Mare</td>
<td>Brown, white, brown, black, clydesdale</td>
<td>Scratch</td>
</tr>
<tr>
<td>Cowgirl</td>
<td>Mare</td>
<td>Paint (Brown and white), more brown than Princess</td>
<td>Stroke</td>
</tr>
<tr>
<td>Princess</td>
<td>Mare</td>
<td>Paint (Brown and white), more white than Cowgirl</td>
<td>Stand</td>
</tr>
<tr>
<td>Drummer</td>
<td>Gelding</td>
<td>Tan, furry, black in mane (looks just like Gracie)</td>
<td>Pat</td>
</tr>
</tbody>
</table>

Instructions: You may approach the horse or let the horse approach you. If the horse does not approach you, you may approach him/her but if the horse decides to leave, do not follow.

Donkey: You can pet, scratch, cuddle the donkey as much as you like.

Footnotes: Shirt, Ollie, Tucker, Short, Gracie, Hannah, Cowgirl, Princess, Drummer
Preliminary findings

• Humans
  • Chose to spend more time with horses with whom they were instructed to “stand” with no touch
  • Interviews show humans express stronger social bonds with horses with whom they were instructed to “stand”. Also with horses who showed decreased arousal behaviors.

• Horses
  • Exhibited more stress behaviors with individuals who were told to engage in physical contact
  • Showed fewer stress signals with participants who did not physically engage
  • Showed fewer stress signals with participants who showed consistent behaviors
  • More likely to remain in close proximity with individuals with whom there was no physical contact

• Both
  • Showed changes in behavior (choice to approach, reluctance to leave, fewer stress signals) during interactions based on proximity (could be a function of consistency)
Human Communication and Bonding

Behavioral communication often shaped by culture

Eye contact has meaning

Resource Sharing (food) (Ember, Skoggard, Ringen, & Farrer, 2018)

Touch – type and duration (Jakubiak & Feeney, 2016)

Proximity, time, trust, developing common language, and mutual respect for space (Lewicki & Bunker, 1996; McAllister, Lewicki, & Chaturvedi, 2006; Fay & Maner, 2012; Ulzerman & Semin, 2010)

Very verbal
Human Social Strategies

Food sharing (Ember, Skoggard, Ringen, & Farrer, 2018)

Touch (Jakubiak & Feeney, 2016)

Proximity (Fay & Maner, 2012; IJzerman & Semin, 2010)

Slow development of trust based on type of affiliation (Lewicki & Bunker, 1996; McAllister, Lewicki, & Chaturvedi, 2006)
Applications to EAAT/L

• Mutual movement and touch
• Recognizing one-sided interactions
• Recognizing individual horse behavioral patterns
  • With individuals
  • With interactions
• Need more research in equine affiliative behaviors and how they relate to equine-human interactions
Do our actions align with our goals?

How we interact with horses in EAAT/L

- What we want from EAP interactions
  - Behavioral regulation
  - Emotional regulation
  - Mindfulness
  - Behavioral awareness
  - Acceptance
  - Trust
  - Practice in interpersonal relationship skills
  - Confidence

How horses interact with each other

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References

References continued

THANK YOU

- Amira Ahmed PhD
- Medhat Radi PhD
- Katarina Lundgren
- Hannah Dykes
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